

ABSTRACT OF THE DISCLOSURE

A processor is configured to support a programmable flags masking during
5 processing of a system call instruction such as Syscall. The processor includes a register
storing a mask, where an indication within the mask corresponds to each of a plurality of
flags used by the processor. Based on the state of the indication, the processor may clear
a corresponding flag or may retain the value of the corresponding flag. By programming
the register appropriately, the desired clearing and retaining of the plurality of flags may
10 be performed as part of the system call instruction. Flexibility may be provided for
different operating systems having different sets of flags to be preserved or cleared.